

Please Note: These transcripts are not individually reviewed and approved for accuracy.

WORKSHOP

STATE OF CALIFORNIA

INTEGRATED WASTE MANAGEMENT BOARD

PERMITTING AND ENFORCEMENT COMMITTEE

JOE SERNA, JR., CALEPA BUILDING

1001 I STREET

2ND FLOOR

SIERRA HEARING ROOM

SACRAMENTO, CALIFORNIA

MONDAY, DECEMBER 6, 2004

3:00 P.M.

JAMES F. PETERS, CSR, RPR
CERTIFIED SHORTHAND REPORTER
LICENSE NUMBER 10063

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

APPEARANCES

PANEL MEMBERS

Mr. Peter Anderson
President, Recycle Worlds Consulting

Mr. Michael D. Caldwell, PG
Senior Director, WM Environmental Protection,
Groundwater Programs

Mr. Gary Lutz
Vice President, AIG Environmental Insurance

STAFF

Mr. Howard Levenson, Deputy Director

Mr. Richard Castle

Mr. Michael Wochnick, Supervisor, Closure and Technical
Services Section

ALSO PRESENT

Mr. Evan Edgar, California Refuse Removal Council

Mr. Curt Fujii, Allied Waste

Mr. Gary Liss, Gary Liss & Associates

Please Note: These transcripts are not individually reviewed and approved for accuracy.

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

Please Note: These transcripts are not individually reviewed and approved for accuracy.

iii

INDEX

PAGE

| | |
|---|----|
| Opening remarks by Deputy Director Levenson | 1 |
| Staff Presentation | 8 |
| Presentation by Panel Member Caldwell | 26 |
| Presentation by Panel Member Anderson | 41 |
| Presentation by Panel Member Lutz | 58 |
| Questions & Answers | 81 |
| Adjournment | 92 |
| Reporter's Certificate | 93 |

Please Note: These transcripts are not individually reviewed and approved for accuracy.

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 PROCEEDINGS

2 DEPUTY DIRECTOR LEVENSON: Okay. I think we're
3 ready to roll.

4 (Thereupon an overhead presentation was
5 Presented as follows.)

6 DEPUTY DIRECTOR LEVENSON: I want to welcome you
7 all to this workshop on post-closure maintenance beyond
8 the initial 30 years and associated financial assurance
9 demonstrations.

10 This is a second in a series of workshops that
11 we've had on this topic, the first being November of last
12 year. And we'll probably have more. This is sort of a
13 semi-committee, semi-staff workshop. We're basically here
14 to try and present some perspectives on our thinking about
15 these topics, perspectives that have evolved over the last
16 year.

17 We have a panel that will make some
18 presentations. And then we'll engage in some open
19 discussion with folks in the audience. And we'll end up
20 just with some general directions of what we're going to
21 do next.

22 By the way, I'm Howard Levenson. I'm Deputy
23 Director for Permitting & Enforcement here at the Board.
24 And I'll introduce several other folks in a couple of
25 minutes.

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 --o0o--

2 DEPUTY DIRECTOR LEVENSON: The purpose of this
3 workshop is to provide continuing education on this issue,
4 discuss key questions with stakeholders, and seek some
5 general directions or indicate what our general next steps
6 are going to be. There's many ways to characterize the
7 key questions that are associated with this issue. Now,
8 how long will post-closure maintenance activities at
9 landfills be needed? What should the state do to identify
10 these ongoing maintenance activities and their costs
11 beyond the first 30 years of post-closure maintenance?
12 How long should operators be required to provide financial
13 assurances for such activities? And should the state
14 consider whether and how to require financial assurance
15 demonstrations for post-closure maintenance activities
16 beyond the first 30 years?

17 While we're still some years away before the
18 first Subtitle D landfills reach 30 years of post-closure
19 maintenance, it's an appropriate time to begin discussing
20 these kinds of questions now way in advance so that
21 everybody knows what's on the table, what folks are
22 talking about, and what might be happening a few years
23 from now.

24 Obviously the answers for this have -- to these
25 kinds of questions have very significant implications for

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 future generations: For landfill operators and owners who
2 are responsible for providing financial assurances; and
3 for the general citizenry who could be responsible for
4 cleanup costs in some instances should there be problems
5 beyond 30 years of post-closure maintenance.

6 I want to clarify that this is not at all a
7 formal presentation of options to our P&E Committee or the
8 Board. That's why we've kind of structured it this way, a
9 little bit more loosely. This is just a workshop talking
10 about some of these general issues and indicating what our
11 next steps will be, which will be in more detail next
12 year, have more detailed workshops on some of these
13 issues.

14 --o0o--

15 DEPUTY DIRECTOR LEVENSON: The basic format will
16 be: I'll talk for a little bit, just a little bit of
17 introductory material; and then Mike Wochnick and Richard
18 Castle from the Waste Board staff are going to discuss
19 post-closure maintenance and some of the financial
20 assurance issues as they are right now; and then I'll wrap
21 up the staff presentation, indicate where I think we're
22 headed next.

23 And then we have a panel to make some
24 presentations. We have Mike Caldwell from Waste
25 Management. Mike, if you can, first on your left.

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 And then we have Gary Lutz from AIG from the
2 insurance industry.

3 And we have Peter Anderson. I'm not sure which
4 hat you're wearing today, Peter.

5 And they'll provide their own perspectives on
6 this issue. I know we'll have kind of an open discussion
7 for you as the audience to pose questions, we can go back
8 and forth, before we wrap it up.

9 I want to thank all of you for your patience. I
10 know this is starting late. We had a tremendous committee
11 meeting agenda this morning that lasted until 2:30. So I
12 appreciate all of your indulgences in starting this late,
13 and probably running it a little shorter because of that.

14 So, again, I think it's okay. We're kind of in
15 the middle of this evolving discussion.

16 --o0o--

17 DEPUTY DIRECTOR LEVENSON: So as I said, I'm
18 going to provide some context on some of these questions.
19 And Richard and Michael will address some more of the
20 issues that are listed on this slide. And then I will go
21 ahead and wrap up with our next general steps.

22 --o0o--

23 DEPUTY DIRECTOR LEVENSON: This is a graph of --
24 well, first of all let me just state that operators are
25 responsible for post-closure maintenance activities at

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 landfills for as long as the waste pose a threat to the
2 environment at a minimum for 30 years after the closure of
3 the landfill.

4 The State of California has 279 solid waste
5 landfills that have to demonstrate closure and
6 post-closure financial -- financial assurances for closure
7 and post-closure maintenance -- 279.

8 This graph shows that about a fourth of these 279
9 landfills have already stopped receiving waste and are in
10 at least some part of their post-closure maintenance
11 period. And by the year 2009, another five years from
12 now, about half of the 279 landfills will be in that
13 category of post-closure maintenance. So although none
14 are right nearing -- or nearing the end of the 30 years of
15 post-closure maintenance, the first 30 years, there are
16 definitely some that are in and have been in for some time
17 now.

18 --o0o--

19 DEPUTY DIRECTOR LEVENSON: Okay. This graph --
20 and this is in the background paper which is available at
21 the back of the room. And there are other graphs
22 associated with this, but we just picked a few to
23 illustrate a few points here.

24 Under kind of current practices, operators are
25 only required to provide the financial assurances

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 demonstration for these post-closure maintenance
2 activities for the first 30 years of post-closure
3 maintenance, even though statute -- and I think most of us
4 in this room recognize that post-closure maintenance needs
5 and obligations will continue beyond this 30-year period.

6 Staff -- particularly I want to thank Bernie
7 working with Scott and Mike and Richard and Garth --
8 developed this model -- a model to estimate post-closure
9 maintenance costs for all 279 landfills. The model is
10 described in more detail in the paper, but it's based on
11 approved or estimated closure dates, looking at 30-year
12 post-closure costs that are contained in the existing
13 closure plans and inflation factor and various other
14 things that are explained in the paper. It's based on
15 best data that we have. And I think it's useful for
16 showing the magnitude of this issue.

17 This graph in particular shows estimated
18 liabilities for currently closed sites. Not for all 279,
19 but just for the ones that are currently closed. As I
20 said, these have already entered post-closure maintenance.
21 And they have an improved financial assurance mechanism
22 that covers 30 years. Those assured -- those assurances
23 are shown in red for those landfills that have their
24 current -- they have financial assurances currently in
25 place.

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 In blue it shows what happens after that as more
2 landfills enter into post-closure and these first 30 years
3 of financial assurances recede.

4 So you can see in blue that there's -- the
5 uninsured liabilities for currently closed sites beyond
6 the year about 2030 start increasing and they continue to
7 increase beyond that.

8 We'll come back to this kind of slide
9 presentation at the end of the staff presentation just to
10 frame this issue a little bit more.

11 By 2021 the first California landfills could
12 exhaust their 30-year post-closure maintenance
13 demonstrations and enter into this unassured post-closure
14 maintenance period.

15 --o0o--

16 DEPUTY DIRECTOR LEVENSON: This graph -- and this
17 is probably -- this is the last that I will present for a
18 little while -- shows these unassured costs extending out
19 to the year 2040. And it shows the distribution between
20 publicly operated sites in red and privately operated
21 sites in blue.

22 With that I'm going to go ahead and turn to Mike
23 to continue and then to Richard, and I'll wrap it up.

24 CLOSURE & TECHNICAL SERVICES SECTION SUPERVISOR
25 WOCHNICK: Thank you, Howard.

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 This is Mike Wochnick with the Board's Closure
2 Unit.

3 --o0o--

4 CLOSURE & TECHNICAL SERVICES SECTION SUPERVISOR

5 WOCHNICK: I'm going to give you a brief little
6 description on what we look at at post-closure maintenance
7 and cost estimates, to kind of partly frame the issue.

8 Post-closure maintenance consists of the
9 activities at a closed landfill necessary to maintain the
10 site -- the integrity of the site, including gas
11 monitoring and control, final cover, leachate and
12 groundwater monitoring.

13 --o0o--

14 CLOSURE & TECHNICAL SERVICES SECTION SUPERVISOR

15 WOCHNICK: The period under state regulations --
16 California State regulations is performance based. It's
17 an indefinite period. It's as long as a waste poses a
18 threat to water quality under the Water Board's
19 regulations or public health and safety under the Waste
20 Board's portions of the regulations. And it would be a
21 minimum of 30 years. The regulations do not allow an
22 operator to demonstrate post-closure maintenance no longer
23 a threat -- or the waste is no longer a threat until after
24 30 years have occurred.

25 --o0o--

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 CLOSURE & TECHNICAL SERVICES SECTION SUPERVISOR

2 WOCHNICK: This graph's gotten a little bit of play out in
3 a few little reports. I just want to mention, it is
4 somewhat not to scale. Just kind of exaggerate a little
5 bit to prove a point why long-term post-closure
6 maintenance is an issue.

7 As you can see, the basic dry tomb landfills have
8 a potential over ten years suspending decomposition of the
9 material if it's closed properly. And the concern is that
10 should the cover fail for whatever reason, deteriorates
11 over time, earthquakes, land slides, et cetera, that
12 reinstitution of liquids into the landfill can start
13 decomposition again, leachate, gas, et cetera. And that's
14 what -- the second, you know, red line represents a
15 contaminant failure some time after closure.

16 That's another reason why the bioreactor
17 landfills that were here at the RD&D regs are being looked
18 at as possibly shortening the post-closure period, because
19 properly operated and a bioreactor landfill can create a
20 lot of decomposition during the early stages of the
21 landfill, so there would be less waste that could be
22 decomposed once you get to the closure time.

23 --o0o--

24 CLOSURE & TECHNICAL SERVICES SECTION SUPERVISOR

25 WOCHNICK: Here's a picture we would consider somewhat

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 atypical of the vegetation on a landfill. This is Pointy
2 Hills Landfill down in L.A. -- oh, excuse me -- BKK.
3 That's right.

4 Most landfills don't close with this much
5 vegetation. That was more of an aesthetic purpose for the
6 locals there.

7 The next slide shows a little more typical. This
8 is Sac City Landfill. Actually you can see it from the
9 upper floors from this building. And actually this
10 picture was taken from the roof here.

11 It's more of a typical -- you know, some grasses,
12 a few little bushes here and there, just kind of
13 non-irrigated -- left as non-irrigated open space.
14 However, the City of Sacramento is actually in the process
15 of doing a master plan to develop all this into Sutter
16 Landing Park -- ball fields, basketball courts, various
17 other things. Over the next, you know, 20, 30 years
18 they're going to be initially developing older areas that
19 were closed many years ago, and then some of them that are
20 actually off of waste.

21 And then the main landfill area that was just
22 closed in the mid-nineties will probably won't be heavily
23 developed until, you know, a number of years down the
24 road, kind of let settlement take its place, get a lot of
25 the decomposition, the gas out of the way.

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 --o0o--

2 CLOSURE & TECHNICAL SERVICES SECTION SUPERVISOR

3 WOCHNICK: Now, we're not the only ones talking about how
4 long the post-closure maintenance period is. There's been
5 a number of investigations going on. EPA has a strategic
6 policy of, you know, how long post-closure maintenance
7 should be. ASTSWMO had meeting topics. WasteTech
8 Landfill conferences.

9 And there's some ongoing research:

10 EREF, the Environmental Research and Education
11 Foundation, has a study going, which Mr. Caldwell will be
12 making a more detailed presentation on during his talk.

13 The ITRC, which is the Interstate Technology and
14 Regulatory Council, has kind of a companion report coming
15 out there that's more procedural based, while the EREF is
16 more technical based.

17 Both those reports -- the EREF should be out
18 technically -- estimated to be out first quarter of next
19 year. The ITRC, the second quarter of next year.

20 --o0o--

21 CLOSURE & TECHNICAL SERVICES SECTION SUPERVISOR

22 WOCHNICK: And my last slide here is on how the cost
23 estimate for post-closure maintenance is determined.

24 Under the Waste Board's part of the regulation
25 it's the annual cost of maintenance times 30. And the

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 annual cost will include whatever needs to be done over a
2 year period, plus anything prorated that's not annual or
3 less frequently. Such as a gas well replacement -- maybe
4 every 15 years you have to replace a gas well. So
5 one-fifteenth of that cost would be an annual cost.

6 Under the Water Board's regulations it's slightly
7 different on their part, where it references the first 30
8 years of post-closure maintenance under the development of
9 closure plans. And then it would have to be revised later
10 on as the post-closure period continues on.

11 --o0o--

12 CLOSURE & TECHNICAL SERVICES SECTION SUPERVISOR

13 WOCHNICK: And after that, go to the financial assurances.
14 And Richard Castle will be doing the next set of slides.

15 MR. CASTLE: Thank you, Mike.

16 Again, my name is Richard Castle and I'm in the
17 Financial Assurances Section at the Waste Board.

18 And you're going see a lot of words on the slide.
19 So if you've got the handouts, you can read them later. I
20 wouldn't try to get you to read everything as we're
21 talking about it today.

22 The first part I want to talk about though is why
23 are we here even. And so we throw up some of the statutes
24 for the reason, the mandates for the Financial Assurances
25 Section.

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 The very beginning of our portion of the Public
2 Resources Code leads us to 43500. And this is essentially
3 a quote. It's not entirely a quote. But if you go to
4 43500 you'll see the few remaining words. The Legislature
5 declares that the long-term protection of air, water, and
6 from pollution is best achieved by requiring financial
7 assurances of closure and post-closure maintenance of
8 solid waste landfills.

9 Obviously they knew what they were talking about.
10 We all, I believe, can agree that we're going to have to
11 have money put away somewhere to assure that these
12 operations get done.

13 I don't think there's any misunderstanding in the
14 room -- if there is, raise your hand now -- that at some
15 point Mike's graph is going to play out, that there's a
16 very likely -- there's a very good potential for a release
17 at the site. The Legislature saw that and mandated that
18 we are here at the state to collect an assurance that the
19 operators are going to be able to take care of the
20 facility. Whether the operators are a public operator or
21 a private facility, they don't want 10 years, 20 years, 40
22 years, whatever the years number is, for the taxpayers to
23 have to step in and take care of landfills as if it was a
24 superfund problem. They saw what was happening with the
25 hazardous facilities and they saw what was happening with

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 landfills in general and they said, "We need to understand
2 these costs initially and have an assurance that the true
3 costs of landfilling is going to be taken care of."

4 As we progress through with the rest of the
5 statute though, the -- if you want to say the political
6 nature of it came to effect that they said, "You know
7 what, we can't tell somebody to put away money forever."
8 So the years -- 30 years were chosen.

9 That's what we're here to discuss today, the
10 ideas of how we can solve that problem, assuming it's a
11 problem, that these facilities are going to still be in
12 existence -- that the waste is still going to be in the
13 ground well after 30 years of closure.

14 And if it can be taken care of prior to then,
15 obviously we wouldn't need an assurance beyond that. But
16 the likelihood when we're entombing the waste is that
17 there is still going to be a threat to the environment, a
18 threat to the people of California, and a potential for an
19 expense. So we want to figure out ways to obtain that
20 money, obviously without putting everybody out of
21 business, because that just begins the process of
22 taxpayers paying for everything.

23 --o0o--

24 MR. CASTLE: The regulations that we put together
25 to further define what the statute is requiring of us in

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 our mandate, I've got a number of them listed up there.
2 And basically it's identifications for corrective action
3 estimates for closures, for post-closure maintenance. And
4 intermixed within these are both Waste Board and Water
5 Board requirements because both the boards, knowing that
6 facilities pose a threat, required the financial assurance
7 demonstrations to be made. The Waste Board having staff
8 to do those activities was -- I don't want to use a bad
9 term -- but was saddled with the responsibility of
10 collecting that financial assurance demonstration.

11 --o0o--

12 MR. CASTLE: In developing the regulations, the
13 Waste Board put together a list of every conceivable, at
14 the time, financial assurance demonstration that we felt
15 was a legal binding arrangement. And for the most part
16 the intention was to have the assurance provided by an
17 independent third party. And as you can see the list of
18 them up there, the biggest item on the that list is the
19 Pledge of Revenue Agreement. That's available for public
20 operators only.

21 The local city or county or joint powers
22 authority passes a resolution, and they encumber their
23 money up front in an interim agreement with the Waste
24 Board on behalf of the state that those monies will be
25 first spent toward post-closure maintenance as needed.

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 That pledge of revenue can also be used for corrective
2 action exposures at the facility.

3 The closest to that would be a means test, for a
4 private operator to be able to identify just essentially
5 that their financial statements show that they're a strong
6 enough company to just provide the means test.

7 But as you can you see, we do have a large list
8 of options. And they can be combined for the most part.

9 And what we still need though is something --
10 these are all essentially limited to that 30-year
11 timeframe. The pledge of revenue is a 30-year pledge.
12 And the easy answer is we could say, yeah, we can extend
13 that pledge of revenue. But that's not necessarily the
14 best fix for the situation. And we still have a lot of
15 private operators out there also, and we need to find a
16 financial demonstration that, like I said, doesn't put
17 everybody out of business, but will provide the state with
18 an assurance that these post-closure maintenance
19 activities will be taken care of without just stepping
20 back on the taxpayers at some point.

21 --o0o--

22 MR. CASTLE: A brief description of what the
23 financial demonstrations provide the state. We have
24 differences between the different mechanisms.

25 And as I said earlier, we have third-party

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 guarantees, which is like a letter of credit or a surety
2 bond.

3 And then we have cash-value-type demonstrations,
4 which is a trust fund, where they've actually put all the
5 money away into a trust. The counties and cities have the
6 option of putting it away, with the treasurer holding the
7 money as if they're a trustee.

8 And then another cash-value demonstration, as is
9 currently written in the regulations, would be insurance.
10 The insurance as we currently have them in regulation is
11 an actual transfer of the payment for post-closure
12 maintenance from the operator to the insured.

13 If you take an insurance policy that doesn't
14 actually transfer that risk -- and it's not really a risk
15 because it's going to happen. The facility's going to
16 close and there's going to be an expense for post-closure
17 maintenance. But if you take it and say only if the
18 operator fails to cover post-closure maintenance does the
19 insurance kick in, what that is is a guarantee, and that's
20 a surety bond. That is in acceptable mechanism, but
21 that's not a cash-value mechanism unless the operator
22 fails.

23 So there's a slight difference between the two.
24 Insurance has an insurance policy, is intended to be much
25 more like the trust fund, and the operator make draws on

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 that policy during the post-closure maintenance period.

2 The impacts of having draw-downs on trust funds,
3 enterprise funds and insurance is that the value of that
4 financial demonstration is going to decrease over time,
5 because obviously the operator's paying for their
6 expenses, they go along and there's less remaining in the
7 pot.

8 If there was a letter of credit or a surety bond
9 setting there, it would be somewhat simple to tell the
10 operator that you have to maintain that for the same value
11 throughout your post-closure maintenance period, because
12 the operator's already planning on spending the money
13 themselves out of pocket. But the -- the cost estimate
14 has got to be on a level playing field also. So we have
15 to come to an agreement about how we're going to deal with
16 that cost estimate in the future.

17 And we also have to come to an agreement about --
18 at some point you would have to assume that any facility
19 that's privately operated could become insolvent and the
20 state would have to step in and grab the financial
21 demonstration to continue the post-closure maintenance of
22 that facility. And at that point the state is setting
23 there with just 30-years worth of funding. So we haven't
24 really solved the problem. We've moved the problem to the
25 future. But there's still only 30-years worth of

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 assurance there.

2 Today's workshop hopefully we'll get some ideas
3 on how we can get a bigger assurance, something that is
4 more than just 30 years. We don't want to just move the
5 window along. We want to find a true solution for that.

6 --o0o--

7 MR. CASTLE: I believe this is for Howard at this
8 point.

9 DEPUTY DIRECTOR LEVENSON: What we've done in the
10 paper, which is about 15 or 20 pages long, is divide these
11 issues up into two general groups. One is kind of the
12 length of the post-closure maintenance period and how do
13 you determine when it might be ended, from a purely kind
14 of technical standpoint related to environmental and
15 public health threats.

16 In that group, there are at least two issues and
17 the third one that kind of crosses over into the second
18 group. The first issue just being that there's no
19 specific criteria for determining when waste no longer
20 poses a threat. In other words, what's -- how do we
21 determine what the end of the post-closure maintenance
22 period is? We will here a little bit more about that from
23 Mike Caldwell on the EREF project. And you'll see what
24 staff is -- in a second what staff is suggesting that we
25 continue to do.

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 The second issue is that the post-closure
2 maintenance cost estimate, not the financial assurance
3 mechanism but just the cost estimate, doesn't always
4 include the cost for some of the more predictable
5 long-term maintenance and replacement issues, things that
6 we know are going to happen but they're generally going to
7 happen beyond the first 30 years. So we may not have that
8 included in the annual cost estimates.

9 The third issue is that there's no corrective
10 action requirement or associated financial assurance
11 demonstration for non-water-quality-related issues for
12 corrective action. Unlike -- there is a corrective action
13 requirement under the State Water Resources Control Board
14 regulations, but not for non-water-quality-related issues.

15 --o0o--

16 DEPUTY DIRECTOR LEVENSON: That last one kind of
17 crossed over into these next two. And there's much
18 lengthier discussions of these issues in the issue paper.

19 But the fourth and fifth issues are very
20 intimately linked. Should the Waste Board or the state
21 require financial assurance demonstrations for
22 post-closure maintenance beyond 30 years?

23 And related to that: Is it appropriate to
24 release monies, to disburse monies from the current
25 demonstrations that have some kind of cash value -- as

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 Richard said, a trust fund or something like that --
2 without knowing whether or not the post-closure
3 maintenance period is going to end at that 30-year mark?

4 --o0o--

5 DEPUTY DIRECTOR LEVENSON: Before we turn to the
6 panel I'm just going to wrap up with a few slides. This
7 is -- again I want to reiterate that this is not an agenda
8 item before the Committee or the Board. So we're not
9 coming in with very specific detailed options that we're
10 going to be marching down a path on. There are a lot of
11 different options outlined in the paper, but basically
12 we're going to take a very general approach.

13 On the first couple of issues, on, you know, the
14 end of the post-maintenance period, we're basically going
15 to monitor the ongoing research, for example, through IRAF
16 or the ITRC and other projects. And when we have that
17 information we will come back to the Committee --
18 Permitting & Enforcement Committee and the Board at least
19 with a report and perhaps with some options. For example,
20 should staff develop specific criteria or not? Should we
21 just leave it up to the operator? But we need to see what
22 the results of those studies are first.

23 Issue two is -- you know, we will continue to
24 investigate -- or we will investigate the feasibility of
25 looking at some of these long-term maintenance replacement

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 costs as part of the annual cost estimate. Probably we'll
2 do that at this point again through discussions at this
3 workshop, subsequent workshops, before we actually come
4 back to the Committee with a specific proposal, whether
5 that would be a regulatory proposal or any kind of
6 statutory proposal.

7 --o0o--

8 DEPUTY DIRECTOR LEVENSON: Same thing on looking
9 at the corrective action for non-water-quality-related
10 issues. We're going to continue to just monitor that and
11 talk with folks. Again, once we have some more definitive
12 information from stakeholders, we can come back to the
13 Committee.

14 And then on the fourth and fifth issues, which
15 are really the long-term financial assurance requirements,
16 beyond 30 years, our plan at this point is to have a much
17 more in-depth workshop, one where we can devote more than
18 an hour to it, probably a half to full day workshop
19 sometime in the spring or early summer, where you folks
20 are all invited, and we have much, much more of a kind of
21 working group workshop discussion on what kinds of
22 mechanisms might work best to address this issue, what
23 will we have to do to make those happen, even to consider
24 them before the Board, what are the statutory and
25 regulatory kinds of barriers that we would have to

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 address. So use a very detailed workshop format to get
2 additional information beyond whatever we gather today and
3 then come back to the Committee.

4 So you can see we're kind of in this iterative
5 process of trying to gather some information, keep honing
6 the issues down and get some more clarity on what it is
7 that is possible. And we're hoping that today we get --
8 start getting the seeds of answers to some of these
9 questions, particularly on the last couple of issues.

10 --o0o--

11 DEPUTY DIRECTOR LEVENSON: For these last couple
12 of issues regarding financial assurances for beyond 30
13 years, I want to return to the model and provide you with
14 some additional context.

15 This graph shows the annual -- each bar is just
16 the annual cost of unassured liabilities. It goes out for
17 50 years, to 2054. And this is for all sites, all 279
18 sites. And each annual bar is dollars valued in those
19 years, assuming a 2 1/2 percent inflation rate. So, for
20 example, for 2054 the annual unassured costs are about
21 \$143 million. For 2053 the amount would have been about
22 \$135 million. That's based on the model that we
23 developed.

24 So these are the unassured amounts that would
25 need to be spent in those years for post-closure

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 maintenance. If you deflate those back to the current
2 year, 2004, the net present value of all of these
3 unassured liabilities for post-closure maintenance through
4 2054 would be over \$600 million. And about three-quarters
5 of those unassured liabilities would be attributed to
6 public facilities.

7 --o0o--

8 DEPUTY DIRECTOR LEVENSON: Kind of taking that
9 step one -- going one step further is like how do we start
10 thinking about those unassured liabilities and what might
11 be done about them, without providing a specific
12 mechanism. This is just one scenario of how you might
13 start thinking about those unassured liabilities. We have
14 other scenarios in the paper. But this shows the
15 cumulative amounts, in blue, over time, over 100 years in
16 this case, of these unassured liabilities. You can see
17 they rise to quite a substantial amount by the end of
18 100 year -- or 50 years from now.

19 It shows also in red -- this is just one scenario
20 of what investment -- if we started now making an
21 investment, what investment could meet these unassured
22 liabilities. And this particular graph shows that \$18
23 million -- you know, investing \$18 million beginning in
24 2005 would be necessary to offset the future value of
25 these estimated unassured post-closure maintenance

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 liabilities. Now, as I said, this is just one scenario.

2 It's just an initial cut.

3 If you extend the timeframe out longer, the
4 unassured liabilities are greater, the investment needed
5 to cover those liabilities is greater.

6 But it just at least frames I think for you the
7 kind of monetary parameters that we're looking at here,
8 what might face us when we get into these unassured
9 liabilities after 30 years of post-closure maintenance.

10 So with that, that ends staff's presentation. As
11 I said, we will continue to do work on this via workshops
12 and further discussions.

13 But now I want to turn -- and I'll take a seat
14 over there -- I want to turn to our panelists and get
15 their perspectives on this.

16 So let me shift over for a second.

17 Our first panelist who's going to make a
18 presentation -- and this is kind of in the same order that
19 the issues are talked about in the paper. We'll look at
20 the post-closure maintenance period itself and what folks
21 are researching in terms of how do you determine when that
22 might end, or make some kind of -- what kind of criteria
23 could we use?

24 So our first presentation will be Mike Caldwell,
25 who's with Waste Management, Inc., and has been

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 participating in the EREF project.

2 PANEL MEMBER CALDWELL: Thank you, Howard.

3 DEPUTY DIRECTOR LEVENSON: Now, if you can't --
4 it's a little awkward being up there. You might want to
5 switch the podium around if you want to be able to see
6 your slides a little better.

7 PANEL MEMBER CALDWELL: This is all right?

8 You can all hear me?

9 Can you all see.

10 Thank you, Howard.

11 (Thereupon an overhead presentation was
12 Presented as follows.)

13 PANEL MEMBER CALDWELL: My name's Mike Caldwell
14 with Waste Management in Houston, the Senior Director of
15 the Ground Water Protection Program. I'm here today
16 representing EREF, as Waste Management is a member of the
17 Technical Advisory Panel to EREF. So it sort sets the
18 stage as to what our role is in the process.

19 I'm also -- our company's also a member of the
20 ITRC team that was mentioned earlier. So that that's two
21 different groups, the ITRC team being composed of 42 state
22 agencies, solid waste, that are also independently
23 creating a standard or a guide for a performance-based
24 standard for determining the end of post-closure care.

25 So I guess I'm here representing that portion of

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 the industry on this topic.

2 --o0o--

3 PANEL MEMBER CALDWELL: Setting the stage --
4 there's obviously a number of stages that have already
5 been set -- but as to why are we here, what is the reason
6 for needing a performance-based standard for post-closure
7 care? Under the California statutes, it's already set up
8 to where you've got a prescriptive post-closure care
9 period and a performance-based post-closure care period.
10 That's already built into 21900. However, there's no
11 guidance. There's no guidance that stipulates how do you
12 make that determination. If there were -- what did you
13 say earlier, 227 landfills or something along those lines?
14 -- 279. Without any particular guidance, left to their
15 own, each landfill, there might be 279 different ways that
16 a facility would make such a determination.

17 So, you know, based on that, there was of course
18 a need -- there was a need defined by EPA. EPA defined
19 back in 2002 that the recognition of ending -- when to end
20 post-closure care was one of their top priorities in the
21 solid waste office. It was a memo by Tim McMannus setting
22 the stages for the need to define this.

23 As a member of the industry -- industry does not
24 feel in general that we're in any position to walk away
25 after 30 years. That is more of a public perception than

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 it is a reality. Obviously the regulatory bodies and the
2 public groups have that fear. Well, as an industry group
3 we realize that we will have perpetual care of a facility
4 in terms of management for an extended period of time.

5 So now we're talking about this EREF process.
6 Setting the stage just a little bit about what is the EREF
7 process, what is a performance-based system.

8 The reason or the purpose behind the EREF project
9 is to provide the waste industry with a tool.

10 --o0o--

11 PANEL MEMBER CALDWELL: The EREF process is not
12 the answer. It is a tool to obtain the answer. It is a
13 way of creating a process, a defensible process that is
14 based on scientifically -- scientific facts about
15 municipal solid waste in the way that the municipal solid
16 waste degrades -- that is a predictable term -- and
17 providing a tool that allows an analysis to be done to see
18 if the landfill poses a threat to human health and the
19 environment. So essentially it is designed to answer the
20 objectives of 21900.

21 --o0o--

22 PANEL MEMBER CALDWELL: Is there any basis in EPA
23 guidance for developing this, or was this created in a
24 vacuum? Well, actually Subtitle D and Subtitle D guidance
25 to the technical manual sets the basis for this. And this

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 has to do with a performance-based -- in order to
2 terminate your leachate collection obligation under a
3 Subtitle Title D rules and regulations, it is based on
4 performance; that you can discontinue, you can cease
5 managing leachate if it no longer poses a threat to human
6 health and the environment.

7 Now, granted there's not a tremendous amount of
8 information included in the Subtitle D technical guidance
9 document that explains how to do that. But it does
10 provide one interesting perspective, which was the last
11 quote: "Concentrations at the point of exposure, rather
12 than concentrations in the collection system, may be used
13 when assessing threats." So EPA is establishing for
14 leachate that a performance-based standard is appropriate,
15 should be used, and you should be looking at your point of
16 exposure.

17 The real purpose -- the purpose of pointing this
18 out is that it's already in the regulations, it is already
19 in guidance documents. Implementation of this type of
20 program does not require a change in regulation.

21 --o0o--

22 PANEL MEMBER CALDWELL: This is the EREF process,
23 moving -- you know, just sort of setting the stage.

24 --o0o--

25 PANEL MEMBER CALDWELL: I noticed in the CIWMB's
PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 position paper it said that EREF was operator-based and
2 ITRC was regulatory-based.

3 Well, EREF, working closely industry, working
4 closely with regulatory agencies and EPA collectively,
5 through EPA's focus, identified that there was a need.
6 There was also not any entity at that time, which was
7 2001-2002, actively taking the lead on providing an
8 answer.

9 So EREF -- EREF is a nonprofit organization that
10 funded this project. And there was industry involvement.
11 But there's also regulatory involvement and a host of
12 experts as well.

13 So this just sort of sets the stage as far as who
14 EREF is. It's the -- Geosyntec out of Columbia, Maryland,
15 is the project manager. And there's a number of team
16 experts which are later on in the slides, only if we had
17 the time. But suffice it to say that it's a broad
18 spectrum of regulatory; industry, public and private; as
19 well as consulting experts.

20 --o0o--

21 PANEL MEMBER CALDWELL: What is the EREF project
22 and what type of attributes does it bring to answer the
23 issues of 21900?

24 Well, first of all it's a scientifically-based
25 method that breaks down post-closure care elements on a

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 modular basis.

2 Where we talk about -- when any regulatory agency
3 or public concerned group talks about how long will
4 post-closure care extend to, what is the -- what's the
5 duration of post-closure care, well, thinking about that,
6 that's a broad concept that's being thrown out. But
7 post-closure care has four elements. If you talk about
8 extended care or concerns for post-closure care
9 obligations, does that apply to every element and does it
10 apply equally to every element?

11 Well, this process breaks down the gas leachate
12 monitoring and cap maintenance into four modules. And it
13 looks at those modules independently and then, where
14 they're appropriate, the overlap and the effect that
15 shutting down one process has on another.

16 It's a new paradigm for data collection. This is
17 one of the several highlighted attributes that is very
18 important to a regulatory agency and certainly to the
19 public.

20 In order to implement the EREF process, it
21 requires significantly more data than what your average
22 landfill would typically have from a leachate collection
23 system in particular. It requires more data over a longer
24 period of time to be able to make reasonable assessments
25 of whether or not the landfill does. Or if it did present

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 a risk in the past, what was the concentration of leachate
2 at that time? How long have we monitored? Have we
3 monitored long enough, that if there was a release, have
4 we detected that release?

5 So if you had -- you know, if an insurance
6 company had five data points to try to come up with
7 actuarial tables, it would be pretty difficult. If they
8 have significantly more data, it makes that -- it makes
9 the conclusions or judgments based on that conclusion much
10 more sound and much more defensible. I'm not saying
11 that's the best corollary, but the idea that this provides
12 for more data collection than what most landfill operators
13 are typically doing.

14 Conservative assumptions and approaches. There
15 are people that know a little bit about the EREF process
16 or have just heard about the process, have heard that it's
17 conservative, but maybe don't really understand what that
18 means.

19 It is conservative in the sense that not only are
20 you looking at a point, say, ten years in the future or
21 it's closed or 30 years in the future and you're
22 evaluating whether that landfill poses a risk. You're not
23 only evaluating does it pose a risk today at that point in
24 the future; you're also looking back based on the amount
25 of data that has been collected to determine did it pose a

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 risk in the past.

2 From your data, based on leachate concentrations,
3 hydrogeologic setting, distance to receptors, very
4 conservative, maybe property boundary, whatever is
5 appropriate in that jurisdiction, and looking at whether
6 there was a threat 20 years ago. And if there was a
7 threat 20 years ago, have we monitored long enough to
8 determine the impact of that threat?

9 The post-decision monitoring, this is another
10 aspect of the EREF process. Confirmation monitoring and
11 surveillance monitoring. You all have never heard those
12 terms in terms of Subtitle D because those terms don't
13 exist. They were created as part of the EREF process.

14 Part of what confirmation monitoring is is that
15 you go -- that the owner/operator does an assessment of
16 the threats of their leachate -- of managing their
17 leachate.

18 At some point at a particular site let's say that
19 the scientific evaluation determines that that site can
20 discontinue leachate management, and that does not pose a
21 threat to human health and the environment. Well, the
22 EREF process doesn't allow you to just do that. You have
23 to -- you would then be allowed with state concurrence to
24 discontinue your leachate collection system. But then
25 there's a period of confirmation monitoring. You expected

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 that if you shut the leachate collection system off, there
2 will be no impact to the environment. And based on
3 scientific information, there's a time period that you
4 must monitor the environment for to see if your scientific
5 conclusion bears truth, if it passes ground truth.

6 So that's a period of confirmation monitoring
7 that still has rigorous monitoring in place even though
8 the leachate collection system in my example has been
9 discontinued. During that monitoring period your model --
10 what you're hypothesis that you thought would be true is
11 now not true. You said -- the scientific study said we
12 can turn off the leachate collection system and it will
13 not have an impact to the environment. We then go through
14 confirmation period and there is an adverse impact to the
15 environment, we detect it. You simply go back into the
16 system and now you're back operating your leachate
17 collection system and you continue to be in post-closure
18 care.

19 Surveillance monitoring is an add-on period past
20 confirmation, that in that example you have discontinued
21 your leachate system, you've monitored for long enough to
22 determine that if there was a release, you would have
23 detected the release. And so the basic scientific theory
24 or hypothesis of safe to turn off the system has been
25 upheld, there's still an additional period of monitoring.

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 It's an add on, it's a buffer. It is the fact that
2 science is accurate, but it still has a plus or minus.
3 And there's some additional monitoring that continues to
4 be in place.

5 And also promoting proactive landfill practices.
6 I'll sort of move past that. But I think that topic,
7 bioreactors and A-Caps and leachate recirculation, is
8 obviously a topic that many states are dealing with, and
9 California's clearly one of them. But there's a -- there
10 is aspects of those operational practices that have an
11 impact to how long post-closure care should be in place.

12 --o0o--

13 PANEL MEMBER CALDWELL: Project objectives.
14 Provide a rigorous technical approach to assess and
15 optimize PCC activities -- the first two bullets fall into
16 play there -- optimizing PCC activities and allow more
17 effective management of existing PCC funds.

18 This is an important aspect to this particular
19 process. And that goes back to the modular approach of
20 post-closure care. It is possible that a site could be an
21 extended post-closure care period. They are continuing to
22 need post-closure care.

23 But let's just say for an example that
24 groundwater is the major media of concern at a particular
25 site. And the groundwater flow velocity in that

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 particular regime is three feet a year, five feet a year,
2 ten feet a year, whatever -- just conservative numbers.

3 If a regulatory agency has an analysis, it's
4 basically a -- it's a threat analysis, a risk-type of
5 analysis, that has justified that that site, that might
6 have been doing quarterly sampling or semi-annual
7 monitoring, it is now not a threat to extend that
8 monitoring period to annual, or if the regulations allow
9 every two years or every three years, if you've gone
10 through an evaluation and shown that there's no threat in
11 doing that, now the owner/operator now is more effectively
12 managing the funds that he has to deal with in
13 post-closure care. But yet the site is still in
14 regulatory post-closure care. So they're not mutually
15 exclusive.

16 Assess conditions early. We're going to get to
17 this in the next slide, I believe it is. But evaluate
18 landfill status and monitor for the effects of change for
19 the two levels. That's the confirmation monitoring and
20 the surveillance monitoring aspects of the EREF process.
21 But assessing conditions early. Part of the key to the
22 EREF process is not evaluating threat at the end of 30
23 years. That seems to be -- that's sort of a standard
24 perspective is if we wait till 30 years into post-closure
25 care to determine threat, how will we know that the

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 owner/operator will still be solvent?

2 That whatever it is, we haven't determined it
3 early enough. The EREF process, if accepted by the states
4 as drafted, requires that an owner/operator implement such
5 an evaluation no later than ten years after closure, to
6 make sure that an evaluation is done and performed at a
7 timeframe early enough that if conditions are identified
8 that would indicate longer care than 30 years, that the
9 processes are in place, the owner/operators are expected
10 to still be there or that the mechanisms are still in
11 place to make adjustments, if necessary.

12 And of course provide increased certainty because
13 it's now based on -- not based on 279 different
14 consultants creating some type of matrix. There is a
15 system, a uniformity that provides certainty to regulators
16 and the public.

17 --o0o--

18 PANEL MEMBER CALDWELL: There's three possible
19 outcomes. I mentioned that the EREF document says you
20 can't -- if accepted, not to be implemented later than ten
21 years after closure.

22 You know, either the analysis will show that the
23 landfill still poses a threat -- if it currently still
24 poses a threat to the environment, you're just continuing
25 your post-closure care. Or the outcome could be

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 optimized. That it still poses a -- maybe -- there's some
2 element, at least one element that has indicated that
3 there either is still a threat or the current landfill
4 does not pose a threat but there was a potential threat in
5 the landfill condition X number of years ago, and we have
6 monitored long enough to see if the effects of that
7 potential issue have been picked up in our monitoring
8 system. So you're still in a regulatory post-closure care
9 period, but you should be able to optimize costs, to
10 manage costs more effectively.

11 Now, whether that's done -- you know, the
12 owner/operator or the financial assurance aspect, the
13 financial assurance part of this I'm not really dealing
14 with in my presentation. But the point is that that
15 optimization can still -- should still be considered in
16 your -- in the amount of dollars required for a
17 post-closure care obligation.

18 --o0o--

19 PANEL MEMBER CALDWELL: And of course end of
20 regulated PPC, that is the topic that many in the
21 industry, regulators, public, have a very difficult time
22 even hearing the term "ending regulatory PCC". How can it
23 ever end? Well, the fact of the matter is that there are
24 properties, whether it's Brownsfield or other property
25 initiatives that you -- there's end-use obligations that

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 have to be maintained. If a landfill has been shown
2 definitively by scientific methods to not pose a threat to
3 human health and the environment, and the end-use
4 obligation of that landfill is a golf course, now, that
5 golf course has to be managed, the end-use has to be
6 maintained.

7 Part of that obligation has to be following the
8 Subtitle D regulations. But the integrity of the cap is
9 not diminished through its end-use obligation. That is
10 still something the owner/operator is responsible for.
11 That doesn't necessarily mean that regulated PCC must
12 follow that.

13 Now, some states will say that it will; some
14 states won't. But it's not a de facto statement that
15 because there's a golf course over a landfill, that
16 regulated PCC must still be in place.

17 So those are the potential outcomes.

18 --o0o--

19 PANEL MEMBER CALDWELL: Basically the points that
20 we're talking about are founded in plethora of volumes of
21 information. Municipal solid waste and the municipal
22 solid waste characteristics, degradation, et cetera, are
23 well known. This was -- Thomas Christiansen, just one
24 author, at the University of Denmark or he's in Denmark --
25 just pulled this off the Internet -- has 53 papers on the

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 characteristics of degradation, mobilization of MSW
2 leachates. These are well known facts. And many of these
3 participants are -- not Thomas Christiansen -- are
4 involved with this process.

5 --o0o--

6 PANEL MEMBER CALDWELL: In the absence of time --
7 you guys -- you folks have seen graphs like this. And I
8 only want to point out that the EREF process doesn't just
9 consider the end result, the January 2004 result, but also
10 considers the 1992 results where the maximum detected in
11 leachate. It evaluates risk on multiple levels -- threat,
12 I should say.

13 --o0o--

14 PANEL MEMBER CALDWELL: Project status. As Mike
15 mentioned earlier, the first quarter of 2005 expected for
16 the EREF document. The ITRC is expected to come out with
17 that document in May of 2005.

18 --o0o--

19 PANEL MEMBER CALDWELL: In the essence of time --
20 I'm basically through -- this is the EREF project team,
21 showing the various groups and who are involved.

22 --o0o--

23 PANEL MEMBER CALDWELL: And these are the project
24 experts who are involved with this process as well,
25 including John Gallinetti and Pat Sullivan from

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 California.

2 Thank you.

3 DEPUTY DIRECTOR LEVENSON: Thanks, Mike.

4 I think in the interests of getting -- letting
5 all the panelists make their presentations, we're going to
6 move on to the second panel. And then when all three are
7 done, we'll just open it up for general discussion.

8 I do want to point out that the issue paper does
9 have a summary of the EREF model and at least some initial
10 references. Also includes a summary from our next
11 speaker, Mr. Peter Anderson, who's the author of the Day
12 of Reckoning report. And Peter graciously allowed us to
13 put a one-page summary in the issue paper of that, I
14 believe, as-yet-released report.

15 PANEL MEMBER ANDERSON: I'll explain it in a
16 second.

17 DEPUTY DIRECTOR LEVENSON: And I'll just say to
18 everyone, I know that it is late. So say what you need to
19 say. But if we can keep it shorter rather than longer,
20 that helps.

21 MR. ANDERSON: Thank you, Howard.

22 (Thereupon an overhead presentation was
23 Presented as follows.)

24 MR. ANDERSON: My name is Peter Anderson. I'm
25 Executive Director of the Center for Competitive Waste

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 Industry.

2 And I'm here from Wisconsin. I bet you're
3 asking, "What's a Wisconsin boy doing here in Sacramento?"
4 If you knew what the temperature was in Madison, you
5 wouldn't ask that question.

6 (Laughter.)

7 PANEL MEMBER ANDERSON: And to answer your
8 question, Howard, I am here to submit the report. Though
9 I've been on the road too much. When I got to see the
10 printer's proofs, there are a number of errors in
11 pagination. So I'm going to give you and the Board
12 members a copy. But since this is a very informal
13 process, I'm going to swap out the final copy in about a
14 week, if that's all right.

15 Also with me -- we're going to see in about ten
16 minutes that a lot of what we found in terms of what needs
17 to be done for California to protect its taxpayers from
18 the enormous liabilities is an insurance-based solution.
19 And we retained an insurance expert, because our expertise
20 was in landfills and economics and not in insurance, named
21 Dave Dybdahl in Madison to work with us in devising the
22 specific parameters of how that would shake out.

23 Dave is unfortunately tied up in Philadelphia
24 today. But with me in the audience is Robert Rosenfeld --
25 Dr. Rosenfeld is from Los Angeles from the American Risk

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 Management Network. And what he's here to do, Howard and
2 members of the staff, is answer any specific questions on
3 insurance that we might not be able to answer for you.

4 --o0o--

5 PANEL MEMBER ANDERSON: The current practice has
6 already been described: Routine care for 30 years.
7 Funding mechanisms intended to assure that that is paid
8 for.

9 --o0o--

10 PANEL MEMBER ANDERSON: And the debate that we've
11 had so far is: Should the post-closure period be for 30
12 years? And are some of the non-cash instruments
13 especially ones that are not going to be able to provide
14 the assurance that is desired?

15 We were asked to look at this issue by an
16 indirect route, the reason that we came here. When the
17 staff first announced us getting into the issue back in I
18 think it was November of last year, the Sierra Club in
19 California thought that there needed to be a public
20 representation in the process to make sure that all points
21 of view were heard. And the Sierra Club then asked the
22 Grass Roots Recycling Network for some assistance. And
23 they in turn asked the Center for Competitive Waste
24 Industry for help. And that's how I wound up in this
25 process.

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 And the reason why we spent the time we did in
2 doing a report that's basically almost 150 pages long is
3 the belief that the State of California really is the
4 ground zero for change in reforms that are needed where
5 things presently don't protect the public in the ways they
6 thought they were.

7 The situation today is not one where there's much
8 leadership coming out from Washington. I think California
9 is a leading state. And we felt it's worth giving a
10 concentrated and complete and thorough analysis so the
11 state has an ability to move forward with the kinds of
12 changes and the substantial reforms that we feel are
13 appropriate.

14 --o0o--

15 PANEL MEMBER ANDERSON: This is a slide that
16 Richard pointed out that we're going to be talking about.
17 And it all started when I started looking at this issue
18 last year. This is a slide number 8 from the staff. And
19 when I looked at that containment failure coming out after
20 the post-closure period ends, it seems to me that all the
21 ways that people who are interested in reform had
22 conceptualized the issue failed to contemplate it.
23 Because what this means, when you think about it, is that
24 something else is not the case.

25 --o0o--

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 PANEL MEMBER ANDERSON: This is a similar slide
2 that was presented by Mike. And it's been used by EREF to
3 point out that their belief that what is going on with the
4 leachate results after closure is one in which it trends
5 sharply down. And then after it has enough years of being
6 sharply down, there's enough of a record in which to
7 establish that the site is no longer a threat to the
8 environment.

9 The problem is, if the staff's slide is correct,
10 what that means is some time after the end of the EREF
11 graph the cap will degrade, run off snow melt will reenter
12 the site, and you'll a second wave of degradation and
13 decomposition with gas and leachate generation.

14 --o0o--

15 PANEL MEMBER ANDERSON: So the larger issue is:
16 Can any length of period be adequate? And the basic thing
17 that the staff's slide basically says to me -- and which I
18 would commend to you -- is that you could make the period
19 40 years, 50 years, you could make the period 100 years.
20 By extending that period of time you have not solved the
21 problem. You've simply have pushed the problem further
22 out into the future. Is that a prudent thing to do?

23 Well, one thing you do as you push the problem
24 further out in the future, you essentially ensure that the
25 responsible party is no longer around. Is that a wise

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 thing to do?

2 As you push the problem further out into the
3 future, you ensure that it's more likely, except for
4 desert sites, that there'll be substantial human
5 habitation surrounding the landfill, and that many more
6 people affected by it.

7 So the idea of extending the period of time, that
8 does not solve the problem. And in those respects I just
9 listed makes the problem worse.

10 So the way that we have previously thought of the
11 issue, well, let's get that period out longer -- and I
12 want to make sure I'm clear. I had previously thought of
13 it the same way as well until I saw that staff slide,
14 which made my eyes open up to this issue. It appears that
15 that is not a resolution that will work to make the state
16 protected from these long-term risks.

17 --o0o--

18 PANEL MEMBER ANDERSON: The problem we basically
19 have -- this is a quote from the EPA actually -- is that
20 the elaborate barrier systems we have, according to EPA,
21 which they've said this essentially about four times in
22 the 1980's in the Federal Register leading up to the
23 issuance of the Subtitle D rules, will ultimately fail.

24 --o0o--

25 PANEL MEMBER ANDERSON: And It's a common thing

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 that's been said -- it's been said in the Federal
2 Register -- we're short of time here.

3 --o0o--

4 PANEL MEMBER ANDERSON: It's been pointed out by
5 John Skinner.

6 I think you have a copy of these slides. Let me
7 just flip through.

8 --o0o--

9 PANEL MEMBER ANDERSON: So the first paradox,
10 since the liner and cover are essentially going to degrade
11 at some point in time, is no matter how long the care
12 period is expended, the major failures will occur after it
13 ends.

14 Any kind of assurance program you deal with, you
15 have to crash -- as they say in the business -- you have
16 to crash test it and see will it succeed in protecting the
17 public from these liabilities when the occurrence occurs
18 after care and the assurance mechanism is already
19 completed and stopped -- and ceased.

20 --o0o--

21 PANEL MEMBER ANDERSON: The second problem here
22 is that: How do we conceptualize what those costs are?

23 And we had previously thought that the
24 benchmarking of costs for how do you remediate a site
25 could be found by looking at the record of superfund. And

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 the superfund record is not a very good database. It's a
2 horrendous database. But I think it's a fair statement --
3 Mike may have a different opinion, but I think it's a fair
4 statement to say that essentially looking at the landfill
5 remediation that's been done under superfund, and it's
6 about \$25 million a site. And I thought, well, is that
7 the benchmark for the kind of damages we might see in the
8 case of an MSW site which is going to have no
9 concentrations of hazardous waste, but we love lower
10 concentrations.

11 Well, the problem I had with -- actually wanted
12 to use superfund as a benchmark -- is I went into the
13 records of how they are actually doing those sites.

14 --o0o--

15 PANEL MEMBER ANDERSON: And in 1991 they adopted
16 a policy. And it says, "Containment technologies will
17 generally be appropriate." And what it basically means is
18 going on -- we have to look at the remediation plans for
19 the landfills and the superfund -- is they are not making
20 the site no longer a threat to the environment.
21 Essentially, in general, I think it's a fair statement to
22 say, is that they are capping the sites, they're giving
23 people bottled water, slurry walls, things that are all
24 palliative care but not remediation.

25 --o0o--

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 PANEL MEMBER ANDERSON: And when you talk about
2 remediation, you're talking about enormous kinds of costs.
3 And the costs of remediation are going to potentially have
4 that, because the superfund sites, not only are they only
5 being given palliative care, but they're also
6 substantially smaller. A superfund site might be 50-feet
7 high.

8 But when landfills fail, the cities will have
9 sprawled around them, standards will be stricter. But
10 more than that, they're going to be enormous. Mega-fills
11 are now 500 feet. I was down in L.A. recently. L.A.'s
12 Puente Hills is at 1,087 feet high. These are not -- as
13 some people may think, they are not buried in holes in the
14 ground. They're manmade mountains. And they're subject
15 to catastrophic failure.

16 --o0o--

17 PANEL MEMBER ANDERSON: And I think we've all
18 seen these on our E-mails. Size matters.

19 (Laughter.)

20 PANEL MEMBER ANDERSON: I normally delete these
21 things when they come on my E-mail. But in the terms of a
22 landfill, size does matter.

23 --o0o--

24 PANEL MEMBER ANDERSON: This is a story about the
25 Rumpke landfill near Cincinnati 1996. It collapsed

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 catastrophically, without warning. And the effect of it
2 was just horrendous. Here's a picture of it.

3 --o0o--

4 PANEL MEMBER ANDERSON: The only saving grace of
5 the catastrophic failure at the Rumpke landfill is the
6 fact that the landslide, or some people call it the
7 garbalanche, occurred on the inward-facing slope, not the
8 outward-facing slope.

9 Now, the actual cause of the event in Cincinnati
10 was not dealing with particular issues that are
11 necessarily the ones that would cause a catastrophic
12 failure at a site that's closed at a mega-fill. But
13 nonetheless it does show that all the kinds of things we
14 have done to protect ourselves from these do not work on
15 occasion. The risk is very substantial.

16 --o0o--

17 PANEL MEMBER ANDERSON: And if you have a 100
18 million ton landfill, 500, 600 feet high, surrounded by
19 people, you're going to have enormous amounts of risk
20 involved.

21 So the omitted costs that I think was touched
22 upon by staff -- I'll just run through it again -- is
23 routine care is covered -- minor routine care is covered.
24 But what is not covered is non-routine care, things
25 like -- they're not annual events -- things like replacing

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 the leachate, the cover, things like repairing leachate
2 collection lines that are clogged and cannot be blown out,
3 things that are replaced in the gas wells. Those are not
4 covered in the costs that are currently calibrated for the
5 costs of care. And I believe most of those are also not
6 in the chart that the staff had of the net present value
7 of future exposure to the state after 30 years.

8 You also have palliative corrective action,
9 superfund type of action in the event of a catastrophic
10 event.

11 And then you have what remedial action might be,
12 which could be in the hundreds of millions of dollars.
13 And you certainly don't have third-party injury. What you
14 have is the anomaly here in the state statutes, in the
15 state regulations where the state -- the landfill has some
16 amounts of coverage for third-party injuries while the
17 site is operating, when the risks are least likely to
18 occur. And after the site closes and after care ends,
19 where the risks are greatest, there is no coverage. Not
20 an extremely well-crafted situation at the present time.

21 --o0o--

22 PANEL MEMBER ANDERSON: So just to illustrate --
23 and this is not meant to be engineered numbers. It's just
24 meant to be orders of magnitude numbers to show what we
25 have covered and what we don't.

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 The bar graph at the left-hand side is basically
2 the kind of numbers you would see at a large landfill in
3 California, in terms of whatever mechanism is being used.
4 Many of them are non-cash.

5 You have non-routine, might boost that to \$20
6 million. Palliative care, to 40 million. These are
7 additive numbers. True remediation could be a half
8 billion. And third party, a billion dollars.

9 This would be talking about not a situation or
10 not a number meant to reflect every landfill. A landfill
11 in the desert, mesquite or something like that, maybe with
12 six jackrabbits around it, is not going to have this kind
13 of risk profile.

14 Sunshine Canyon, right in Los Angeles, with the
15 aquifer nearby, tens of millions of people, there we're
16 talking about the kinds of risk that are kind of mind
17 boggling, all of which are completely uncovered and the
18 public is exposed to.

19 --o0o--

20 PANEL MEMBER ANDERSON: So the second point.
21 Even if the present assurance funds did remain available
22 until needed, they would be wholly and totally inadequate
23 to the task.

24 --o0o--

25 PANEL MEMBER ANDERSON: So assurance will be of
PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 little use if not extended longer than care and
2 third-party injuries could be more critical than
3 corrective action and the current amount is too low.

4 --o0o--

5 PANEL MEMBER ANDERSON: I'm just going to run
6 through that since we're out of time.

7 --o0o--

8 PANEL MEMBER ANDERSON: Our view is that the
9 predictable non-annualized major routine care should be
10 handled by a perpetual care fund. Those have
11 predictability associated with it.

12 --o0o--

13 PANEL MEMBER ANDERSON: But the key thing for the
14 state in terms of the enormous magnitudes -- and we just
15 did a very conservative analysis. We're thinking that
16 it's quite possible that total exposure on a situation
17 with the probabilistic risks we have could easily be
18 between \$20 and \$30 billion dollars; is that this kind of
19 risk, which is probabilistic, does not make any sense to
20 try and address with a lock box because you don't have a
21 situation where the risk is the same for every landfill.

22 The only way to address that kind of situation
23 without imposing undue costs on the landfill operator, or
24 otherwise alternatively leaving the state exposed, is to
25 use a mechanism which is presently not contemplated in a

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 substantive sense because the insurance mechanism used is
2 used in a non-insurance way, is to use true insurance or
3 some other securitized risk instruments in which you would
4 have the risks out there handled by insurance. And I
5 don't have time to deal with it here, but essentially
6 there are ways of crafting insurance to reach out in time
7 after care has ended to when the risks are greatest.

8 I know that Mike might have another point of view
9 and argue it back that the risks are diminimous, they're
10 minor. I would say two things to that: The first thing
11 is, if the risks are enormous -- are in fact minor, the
12 way insurance works is it's the average cost or the
13 average coverage times a probability of the covered
14 incidence. So if the probability is in fact, as Mike
15 might argue, zero or close to zero, the premium would be
16 very small.

17 I have a million dollars umbrella coverage for my
18 life -- not for my -- for my house and so forth, any
19 activity, because I just want to be protected. It cost me
20 \$215 a year because the probability is low of going over
21 my normal coverages.

22 And similarly here, if in fact the position of
23 the landfill industry is correct, insurance presents no
24 risk to them because the premiums will be low.

25 But the second point is the state cannot ask the

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 landfill industry to define the risks that the state
2 poses, because you, the state, are in the zero sum game
3 with the landfill industry. And obviously any private
4 company -- and if I were in their shoes, I'd be making the
5 same statement -- would say, "Oh, there's no risk,"
6 because that has the effect of having the state guarantee
7 whatever risks do exist. So it would be inappropriate if
8 the state were to seek -- and it appears you are doing
9 so -- to move forward to protect itself from these future
10 risks, to ask those who have a zero sum relationship with
11 you what that risk should be.

12 --o0o--

13 PANEL MEMBER ANDERSON: And that's why we have
14 this insurance package we can talk more about later.

15 --o0o--

16 PANEL MEMBER ANDERSON: The key thing here I want
17 to also leave with you, especially with the members of the
18 Board, is there is no time to waste. What this graph
19 shows you is you have to recognize a situation where you
20 can make a recommendation which is practical. And being
21 practical when you have large costs necessarily implies
22 amortizing and spreading those costs over as many years as
23 possible. If you cannot amortize the costs of protecting
24 the state, you would have a ruinous financial situation.

25 And when you look at amortization schedules,

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 essentially what they show -- I'll wrap up in a minute,
2 Howard -- is if you wait until five years before closure,
3 the costs go up hyperbolically.

4 So this gets back to the chart that the staff
5 has, which mirrors a chart that we have, which basically
6 points out the number of landfills which are this close
7 and not close to closure.

8 And everyday you wait means that there's that
9 many fewer days left to amortize and spread that cost
10 over. If you were to delay and say, "Well, let's make
11 this a ten-year process," you would have half the
12 landfills pass through the point where you can no longer
13 amortize in an effective way to keep those costs
14 manageable. So I'd urge you to act and act quickly.

15 And the very last thing -- I'd like to take one
16 more minute, Howard, if I may.

17 I think we all can be very much instructed in
18 terms of the urgency to act by what happened with the
19 savings and loan debacle in the 1980's. In 1981, there
20 was a -- the prime rate peaked at 21 1/2 percent. The
21 savings and loans were making mortgages at 5 percent. It
22 was not a winning hand. But it was a temporary
23 hemorrhaging of the financial situation of the S&L's. It
24 was not a permanent one.

25 If the government had gone in to protect, because

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 they have a moral hazard, having guaranteed against the
2 failures of S&L's to protect that investment, it would
3 have cost between \$3 and \$10 billion in 1983.

4 Instead what happened was people like Charles
5 Keating, who had spent a lot of money on political
6 contributions, went to Congress and said, "Let the miracle
7 of the market solve this and no tax dollars will be
8 required."

9 Well, when that pretty situation came to a head
10 after all those swindlers came into the situation, it
11 wound up costing in direct tax dollars \$123.8 billion
12 dollars according to the FDIC. The interest on the bonds
13 to pay for it, to spread that cost out, added another \$450
14 million. And according to the Congressional Budget
15 Office, there's another \$20 billion a year in fiscal drag.
16 That cost us \$1 trillion because the political officials
17 and the public officials and the regulators in 1983
18 decided to let the thing drift instead of taking the bull
19 by the horns.

20 And I think that's an object lesson for us here.
21 You have between \$20 and \$30 billion of liability out
22 there. And you have to move as fast as possible to get a
23 remedy in place that will truly protect the state and its
24 taxpayers while there is still time to amortize that cost
25 and have a practical solution to apply.

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 Thank you very much for your time.

2 DEPUTY DIRECTOR LEVENSON: Okay. Thank you,
3 Peter.

4 We've got one more speaker. And then we'll just
5 open it up to see what energy's left at the end of the
6 day.

7 Gary Lutz from AIG.

8 Gary met Scott I believe down at some conferences
9 down south. And AIG obviously is one of the big insurance
10 companies dealing with hazardous waste and other
11 environment issues. So Gary has graciously consented to
12 come up and give some insurance industry's perspectives.

13 And just before we gets going, I just want to say
14 that all of what you've heard so far today is going to be
15 grist for much more in-depth discussions as we move down
16 subsequent steps and decide what to bring back before the
17 Board.

18 (Thereupon an overhead presentation was
19 Presented as follows.)

20 PANEL MEMBER LUTZ: Thank you.

21 Like they said, I'm Gary Lutz with AIG. I work
22 on financial insurance with AIG Environmental.

23 --o0o--

24 PANEL MEMBER LUTZ: We don't provide -- have any
25 answers, because I hear a lot of validity in both of the

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 sides of the arguments that I heard today. What we at AIG
2 do is we try and look at the problem and then come up with
3 a financial assurance or insurance solution.

4 At AIG right now we have two mechanisms that we
5 use currently when we look at long-term risk. One is a
6 financial product and the other is insurance. AICPA, or
7 the Association of Independent Certified Public
8 Accountants, dictates what is the difference. Because a
9 few years ago people in their balance sheet were mistaking
10 the two of them. And there's different tax treatments.

11 Insurance says that there's two components when
12 you look at a financial product or an insurance product.
13 For something to be an insurance product there has to be
14 1) a transfer of risk. You're going to collect a dollar's
15 worth of premium and then give \$10 worth of coverage.
16 That's a transferring of risk. The other is there must be
17 a timing risk. So then when we look at even a finite
18 insurance program that has expected losses, the expected
19 losses can be guessed at to say that we think we'll have a
20 dollar a year loss. That's how we're going to structure
21 our program.

22 A financial program will only give you a dollar's
23 worth of coverage every year, where a true insurance would
24 say, "Okay, we thought you were going to have a dollar
25 worth of loss every year. Yet we are liable under the

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 contract to pay the full limit in the first year of the
2 policy."

3 So you have timing risk and you have risk
4 transfer. That makes it insurance. The other mechanism
5 is a financial product. AIG and most big insurance
6 companies will do both.

7 They're both designed to provide financial
8 assurance, something that the regulators are going to want
9 to see. And there's just a different approach. The
10 different approach is: Who's taking the risk, how much
11 risk are you talking?

12 --o0o--

13 PANEL MEMBER LUTZ: When we do financial products
14 we look at a -- it's called a guaranteed investment
15 contract. Basically we're going to collect a certain
16 amount of money and we're going to be liable to pay out a
17 guaranteed amount based on the terms of the contract.

18 The basic premise is the regulators determine a
19 liability. They'll say, "We think you have X liability.
20 We want you to fund a certain amount of money that will
21 become available to us in the event of a loss."

22 --o0o--

23 PANEL MEMBER LUTZ: Here the government takes
24 certain risks here. They're taking the risk of investment
25 risk. Or not investment risk, but determination risk.

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 Well let me just get through here.

2 --o0o--

3 PANEL MEMBER LUTZ: The insurance -- the way AIG
4 and most of our competitors are handling this is called
5 finite insurance. Finite insurance is different than your
6 typical insurance most of us buy. Finite assumes that
7 there is a loss. Our loss here in landfill is going to be
8 the closure and ultimately the post-closure care. And
9 we'll basically look at that, trying to make a
10 determination of what that is.

11 Under the premise of insurance AIG would
12 determine the liability and then we would expect the PRP
13 group or the owner to fund for that.

14 --o0o--

15 PANEL MEMBER LUTZ: Our guaranteed investments --
16 there's two basic risks that an insurance company would
17 take under a guaranteed investment contract. One is the
18 interest rate risk and the other is the inflation rate
19 risk. Basically we're not taking any pure insurance here.
20 We're saying that, "Okay, you give us a certain amount of
21 money today and we will guarantee you a certain amount on
22 an available date." We're taking interest rate risk that
23 if we base our calculation today, that we're going to earn
24 5-percent interest; and we only earn 4, we're still liable
25 for the full amount we promised you. The other is when we

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 look at your stream of losses and we say inflation rate,
2 we think there's a 2-percent rate of inflation, yet
3 inflation was 4 percent, we then would be able to -- we
4 would have more losses than we anticipated.

5 A guaranteed investment contract, those are the
6 two principle risks that insurance company is going to
7 take.

8 The inherent risks under a GIC for the regulator
9 would be the timing risk. Again with -- not insurance,
10 we're not taking a timing risk. So that if they laid out
11 a stream of expected losses that we thought this was going
12 to be the post-closure care and this is how it was going
13 to pan out over the next 30 years, if you had early
14 accelerated losses, this type of program would not cover
15 them.

16 And the estimate risk, so that if a regulator
17 looked and said, "We think you're going to have X amount
18 of dollars needed," yet you have had X plus 1, that's not
19 going to be covered by a guaranteed investment contract.

20 The one true advantage of a guaranteed investment
21 contract is the term. We've done these for more than 50
22 years. We've done some of them that were based on
23 indefinite post-closure on some mines -- abandoned mine
24 sites.

25 --o0o--

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 PANEL MEMBER LUTZ: The way we structure them is
2 there's two types. There's an annuity pay-out and a lump
3 sum pay-out.

4 The annuity, basically the regulator is going to
5 determine the expected cost over the life and then give us
6 a payment stream. We would look at that and say, "Okay,
7 we would collect this amount of money," and then available
8 over these X years you would get paid that amount every
9 year.

10 Again, the regulator assumes the risk for
11 incorrect costs, incorrect assumptions. So that if we
12 thought you needed \$5 in the tenth year and you needed \$8,
13 the GIC is only going to pay out \$5.

14 --00o--

15 PANEL MEMBER LUTZ: The problem with this is,
16 again, there's no shortages, like we talked about, for
17 incorrect assumptions; that you said you needed 5 and you
18 needed 10, the contract is only going to be -- is only
19 liable to pay out \$5 in that year.

20 And if you -- on the reciprocal is that if you
21 thought you needed 5 and you only needed 3, that money
22 comes out of the pool. It's no longer invested. It may
23 not be there available for financial assurance for years
24 later.

25 And there's ways to mitigate this with such as
PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 having rollover programs, that unused amounts are pushed
2 back into the account and are available for future years
3 when you do have overruns. But we can structure programs
4 to get around that.

5 AIG assumes the inflation and the interest risk.
6 The costs stay with AIG over a longer period of time.
7 When you have a lump sum, typically -- we'll say that in
8 year 30 we're going to turn over a lump sum of money.
9 When we do these annuity-type programs for less amounts of
10 deposit premiums, we can be on the risk for longer periods
11 of time. Basically in year 30, if you needed a certain
12 amount of money, rather than turn over a large pool of
13 money, which we've done on some cases to the government
14 for their financial assurance, we keep the money for 60
15 years. And so that because we're having it and we're
16 investing it for 60 years rather than 30, the deposit
17 premium can be lower. So we're taking interest rate and
18 inflation risk for over a longer period of time relates to
19 a lower down payment money.

20 The risk there if you do a lump sum is that
21 basically the regulators would then be taking that money.
22 They would be doing the investing and taking those risks.

23 --o0o--

24 PANEL MEMBER LUTZ: The lump sum is the second
25 example where I talked about that at the end of 30 years

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 you determined you need a certain amount of money, you
2 would come up with that amount of money, we would say,
3 "Okay, give us this amount of money today," and we would
4 guarantee you a lump sum amount available for you in that
5 30th year or 40th year, whatever you determine that is.

6 Again, the regulators assume the risk for an
7 incorrect assessment. So that if we set aside for 30
8 million and it was 40, there's no additional coverage for
9 that. And it does take away from timing risks in some
10 essence, in that if you have up-front shortages in your
11 estimates, you are giving the full amount of money; so if
12 the first year you thought you were going to have \$5 and
13 it was 10, you have all \$30 million available for you
14 then. It's going to impact your long-term investment
15 decisions, but it gives you cash -- it removes your
16 cash-flow problems in that you are now controlling your
17 own destiny, you have all the money when you think you --
18 the startup period for when you need it.

19 Again, the regulators take interest and inflation
20 risk upon the receipt of the funds. So if you think
21 you're structuring a program for 50 years, you collect the
22 money in year 30, the government is then responsible for
23 the investment strategies and takes the risk of interest
24 inflation until the money is used.

25 --o0o--

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 PANEL MEMBER LUTZ: They're better suited to
2 programs in that you can collect from 10 or 15 different
3 parties, pool the money together, and then you can kind
4 of -- the regulators can kind of run their own insurance
5 program here where they're using money from 10 different
6 insureds or 10 different PRP's to offset losses across a
7 whole array of insured properties or risks.

8 --oOo--

9 PANEL MEMBER LUTZ: What we at AIG do is we do
10 insurance, and we do finite insurance. It's a long-term
11 financial planning tool. And the inherent risk covered by
12 AIG or any insurance company would be interest rate risk,
13 inflation risk, timing, and then estimate risk.

14 We do these for a maximum of 30 years. There's
15 been a few cases out in Nevada where I've done a 50-year
16 program. And, again, there was some constraints. They
17 were smaller landfills. They were owned by governments,
18 so that we -- we had some sort of other ways of
19 diminishing our risk.

20 The structure on a finite insurance policy is, we
21 look at what we think the prefunded loss is going to be.
22 There are guidances for closure/post-closure where a
23 government regulatory agency will say, "Okay, this type of
24 landfill you have to use these type of parameters to come
25 up with a closure/post-closure care loss." They're very

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 conservative. They're usually based on third parties
2 working for a no-longer or a discontinued entity. When we
3 figure out our prices with the insurance company, we're
4 saying that it will not be an abandoned property in that
5 we -- if a worst-case scenario comes around, we would have
6 our engineers out there, we would be monitoring it, we
7 would be hiring and firing contractors to perform it, so
8 that we can be more aggressive in our assessment in our
9 cost projections.

10 --o0o--

11 PANEL MEMBER LUTZ: The insurance. We have our
12 pre-funded expected. We look and we say, "What is the
13 long term?" Right now we're looking at 30 years
14 closure/post-closure care.

15 We charge an additional amount for risk transfer
16 premium. That becomes your total finite premium.

17 AIG determines the costs to secure the liability.
18 We think the post-closure care is going to be \$10 million
19 over 30 years. A regulator may say that, "We think for
20 that risk you need to post \$15 million worth of financial
21 assurance." AIG will then -- will do their own
22 calculation and say, "Okay, in order to comply with that
23 \$15 million regulatory requirement for financial
24 assurance, we think the actual risk is only 9 or 10
25 million, we can do it for less than the present value of

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 \$15 million." We're going to be looking at private
2 competitive rates and taking some of that risk as an
3 insurance company.

4 --o0o--

5 PANEL MEMBER LUTZ: And often times the limit
6 will either -- it has to equal the financial assurance
7 require amount. And often times we get clients that buy
8 excess amounts. So that if they have a minimum \$10
9 million financial assurance, they're buying insurance to
10 cover them for 15 million. And that's where the risk
11 transfer component comes in.

12 --o0o--

13 PANEL MEMBER LUTZ: The Additional benefits of
14 insurance over guaranteed investment contracts is: The
15 insurance covers regulatory changes over the term. It
16 offers excess coverage, so that if you thought costs were
17 \$5 a year and they were \$10 a year, the policy provides
18 for that. The third-party liability can be covered. So
19 if this landfill impacts a third party, there would be
20 provisions in the policy to give those third parties
21 coverage.

22 The limitations of insurance is, one, is that
23 it's a 30-year term typically. And the investment
24 discount rate. When we discount for our future loss
25 programs, it basically falls under the guidance of

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 reserves. And that these are future losses, so that our
2 discount rates are usually not that high, because we are
3 guided by insurance regulations for investing reserves.
4 So that if we think this is a \$5 loss in year 30 through
5 year 50, those are basically loss reserves, and they're a
6 hundred percent, so we'd have to pool these with other
7 reserves. So the investment strategies are not great.

8 --o0o--

9 PANEL MEMBER LUTZ: Why are we limited at a
10 30-year term? Ten years ago when I started with AIG we
11 were only doing 10-year policies, and we had basically
12 some internal strife. And that we're saying that if we
13 want to sell insurance and we want this to be a mechanism
14 for people to buy, we -- I always felt you needed to
15 insure the total risk.

16 So at that point, and still is, 30 years was what
17 we thought was a traditional closure/post-closure care
18 term. So we started issuing 30-year policies, and that we
19 were willing to cover the entire risk.

20 Why we have trouble going longer than 30 years is
21 there's no real reinsurance market. Traditionally all
22 insurance companies take a risk. They'll issue a \$10
23 million policy. But then they'll buy their own policy
24 that covers them, that after \$6 million of losses somebody
25 else would come on to that policy from 6 million to 10

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 million. We're still ultimately liable to the client for
2 the full 10 million, but now we've set aside some of our
3 losses to another insurance carrier.

4 Very few insurance carriers are offering
5 reinsurance on policies that are 30 years and longer.
6 That's one of the hardest reasons why we can't issue more
7 than 30-year policies, is the minimal amount of reinsurers
8 willing to work with us on long-term programs.

9 The length of the term is directly proportional
10 to our loss ratio. So if you had a one-year policy -- we
11 talk about loss triangles, whereas your first year you
12 basically have a triangle like this, where your first year
13 you have a loss. The longer your term is, along the top
14 of the apex of the triangle, the longer time you have for
15 people to put claims in, the longer -- the greater amount
16 of losses you're going to have.

17 So if you had a one-year policy, you wouldn't
18 think there'd be a lot of losses. If you have a 30-year
19 policy, you have 30 years where you can have expected
20 claims to come in. So you're basically going to have to
21 set aside a lot of reserves over a 30-year policy.

22 The higher losses you have, the more premium you
23 have to charge. And it become to a point where you can't
24 charge enough premium to cover your long-term exposure.

25 A lot of it is like Mike said, you get to

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 actuarial tables, in that there's not a lot of scientific
2 data. It's not like life insurance where we have millions
3 of examples where we can look and accurately predict what
4 the losses are going to be over 40 or 50 years. For the
5 landfills we don't have a lot of significant data to say
6 what will be our actual losses after 25 years or after 30
7 years. So that's where a lot of our inherent internal
8 strife comes from, is that the longer we're out, the
9 greater losses we have. And yet we don't have a lot of
10 actuarial data to really tighten up that number any.

11 --o0o--

12 PANEL MEMBER LUTZ: Just in continuing on this,
13 is it's easier for insurance companies to go to more
14 historical lines to use their reserve requirements up. So
15 rather than tie up a lot of money in 30-year insurance
16 programs for environmental finite, companies say, "I'd
17 rather write more traditional lines of insurance where I'm
18 not asked to go out 30 years." And that's the same thing
19 with the reinsurance carriers. They're saying, "Why would
20 we want to tie up a lot of our available reserves on
21 something that may not be as profitable as other lines of
22 insurance?"

23 --o0o--

24 PANEL MEMBER LUTZ: And the investment discount
25 rate. Because we're tying these to known losses, they go

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 actually into reserves, we're using very low yields for
2 discounting. So that we look and we say what our future
3 loss is. Those are expected losses. They actually have
4 to be treated as reserves. Our discount rates and our
5 interest rates on the money we collect as premium are
6 very, very low interest rate yields. That affects the
7 term and the dollar amount.

8 And these rates are often times dictated by state
9 insurance agencies.

10 --o0o--

11 PANEL MEMBER LUTZ: So just the tying up of this
12 capital into reserves, it hurts your cash flow, it hurts
13 the way you calculate premiums on insurance for long-term
14 policies.

15 The best combination we found -- and we've done
16 this on a lot of superfund sites where there's more than
17 30 years worth of O&M requirements -- is a combination of
18 guaranteed investment contracts and insurance programs.
19 And this I think would be the ultimate solution for
20 working with long-term landfills, is you buy insurance for
21 the first 10, 20, possibly 30 years where we can maybe get
22 a better quantitative assessment of the risk.

23 Our reasoning there why we think the risk is
24 greater to the insured is that it's typically more capital
25 intensive. That's where all of your labor work is doing.

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 Those are risks that would be covered under the insurance
2 policy, so that more work is being done earlier on. You
3 have more gas collection, probably more leachate. And
4 then we see a tailing down towards the end of the policy.
5 It's your high-risk period because it's an unknown
6 commodity. Whereas, you've done engineering studies,
7 you're not really sure that all of the things that you've
8 projected in the early years are a known commodity. How
9 much water leachate that we're going to have? How much
10 are we going to have to treat? How much gas are we going
11 to collect?

12 So if you could assure the earlier years where
13 the commodities are higher, the risk commodities are
14 higher, it may be a good tradeoff. Rather than buy
15 insurance for 50 years, you buy insurance for the early
16 terms of the post-closure, and you insure yourself for the
17 overruns and the unknowns. And then later on when you
18 have a more stabilized loss pick, you can switch into
19 guaranteed investment contracts and go 30 to 40 years.

20 --o0o--

21 PANEL MEMBER LUTZ: What we need there to make
22 those more competitive is we need market-driven rates. I
23 just did a program now for a superfund site where the EPA
24 was requiring 53 years of monitoring.

25 We did two scenarios we looked at for the

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 client -- it was a municipality that was going to assume
2 that risk from the EPA -- is: 1) They looked at all the
3 cost picks for 53 years. They had built in their own
4 inflation estimates and their own risk estimates into the
5 cost. And then we looked at a breakout of where we were
6 going to ensure them for 30 years and they were going to
7 do 23 years of guaranteed investment contracts.

8 My engineers took apart those numbers for the
9 first 30 years, found out that there was a lot of fat, a
10 lot of extra. Because the municipality wasn't going to
11 take any risks. They were risk averse, and they said,
12 "You know what, if we think it's a dollar but it could be
13 5," they were building in \$5 worth of costs into that
14 year. We looked at them, we said, "Well, you know, we
15 think it's a dollar." And then we risk profiled, because
16 we're combining that loss with billions of other dollars
17 worth of losses. We said, "You know what, you really only
18 need to fund \$1.1 million that year. We'll let insurance
19 take the difference in case it is a \$5 risk."

20 So basically we were able to do a combination of
21 this. We saved the county millions and millions of
22 dollars. Where when we looked at the combined estimate
23 where there wasn't insurance, they had probably \$200
24 million of costs for this last 23 years and probably
25 around 400 million for the first 30 years. And when we

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 looked at the combination of us doing our due diligence
2 and then charging insurance premiums to cover them for the
3 risk, we saved them hundreds of millions of dollars over
4 what the actual costs would have been if they tried to
5 fund a 53-year GIC at their numbers as opposed to buying
6 insurance and a combination of GIC.

7 --o0o--

8 PANEL MEMBER LUTZ: The higher yields and the
9 lower prices, that's where municipalities or governments I
10 think actually have to take a look at this and say -- when
11 we priced out our guaranteed investment contracts, we
12 said, "You know what, we'll give you, based on AIG's
13 triple A rated balance sheet for that 23 year period, from
14 years 30 to year 53, for your \$200 million loss pick,
15 we'll take a guaranteed investment contract risk on that.
16 But if you allow AIG to put up its balance sheet as your
17 guarantor instead of collateralizing it or using low-yield
18 treasury bills," for their \$200 million with the first
19 scenario where we used AIG taking the interest rate risk,
20 we were looking at about a \$12 million investment today
21 that would pay out \$200 million over years 30 through year
22 53. Because the federal government said, "No, we really
23 need treasury bills or collateralized times rates," we
24 then had to collect 22 million for that same risk.

25 So \$6 million may not seem a lot. But for a

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 company -- for a municipality that was working on a
2 limited budget, it was a lot of money.

3 So I think what we need to do is try and work on
4 more market competitive yields and -- not like the
5 investments or the bank scenario that was put in where
6 somebody did something and nobody was monitoring it. I
7 think -- you need to monitor these programs. You need to
8 monitor the performance of the insurance companies that
9 are investing this money.

10 --o0o--

11 PANEL MEMBER LUTZ: All of our investment risks
12 you can always commute them. So that if you look and you
13 say, "Yes, we're based on AIG's balance sheet, this is the
14 investment scenario, we gave them 12 million, they're
15 going to pay us out this," you can track AIG's performance
16 and their balance sheet every year. And if the federal
17 government looked and said, "Gee, AIG's no longer triple A
18 rated, now they're A+ rated," "We want to take all that
19 money back out and then we'll put it into our own
20 investment scenario or find another investment agency to
21 use."

22 So I think it's not a matter of, you know, not
23 using those rates. I think you just need to monitor the
24 people that are giving you those investment rates.

25 And I think if you can do some sort of pooling

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 where we talked about like the guaranteed investment where
2 you have lump sum payments where you pool in hundreds of
3 risks into one pool, then you don't have to charge as much
4 to each individual person that gets coverage under that
5 pool.

6 --o0o--

7 PANEL MEMBER LUTZ: So I think it's the
8 cooperation between the private and the regulatory sides
9 that is going to be a solution to anything that's needed
10 if it's more than 30 years, where the private companies
11 can do an awful lot but they do need a lot of help with
12 regulatory agencies on investment rates and loss rates.

13 --o0o--

14 PANEL MEMBER LUTZ: And a lot we're seeing with
15 landfills now is, where they talked about, "Well, no, we
16 had landfills that the risk was minimum because nobody was
17 by the landfill 20 years ago when we did the post-closure
18 picks," what we're finding now is that a lot of companies,
19 because the landfill is right in the middle of a town now,
20 is that they're reusing those landfills and they're coming
21 back.

22 And now you have a new responsible party that's
23 coming in and saying, "You know, we're going to make a
24 golf course, we're going to make a public park. We're
25 going to reuse that landfill right now. We'll step up,

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 we'll become the new responsible party for the next 30
2 years," even though there isn't a new 30-year post-closure
3 maintenance. But somebody will be there to make sure that
4 the cap is tight, because it's basically a premise of
5 their future business use, whether it be a golf course or
6 a park. So I think by reusing a lot of these landfills
7 and the fact that they're built in the infrastructures I
8 think is a way of mitigating a lot of the losses.

9 --oOo--

10 PANEL MEMBER LUTZ: And that was the end of my
11 side.

12 PANEL MEMBER ANDERSON: Howard, can I ask a
13 question before he leaves the podium?

14 Are there innovative ways that the insurance
15 industry has to minimize the cost of having insurance,
16 such as having the state -- the state put the first \$10
17 million layer on some environmental liability policy,
18 therefore, effectively making it a high deductible? Would
19 that be a way of keeping --

20 PANEL MEMBER LUTZ: Oh, yeah. I mean any time
21 you can share your losses, whether we do it with the
22 state -- I mean that was the solution we thought about, is
23 if the state would step up as a reinsurer. And maybe not
24 pick up the first losses, but help us pick up a portion of
25 the high-end losses; that once you became a hundred

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 million dollar loss, maybe you'd like somebody else to
2 step in and help you to say that, "Okay, insurance
3 company, we know you have a hundred million dollar loss.
4 We'll step in and we'll pay 30 million of that loss for
5 you," become like either a reinsurer or a co-insurer. And
6 whether they attach at the first 10 million or the last 30
7 million, you base different rates on that. And we do that
8 today with our own insureds.

9 PANEL MEMBER ANDERSON: If you think it through
10 carefully, the cost factor would be substantially reduced.

11 PANEL MEMBER LUTZ: It can be reduced just by
12 using traditional insurance mechanisms that are already in
13 place right now. Co-insurance, where the state picks up
14 10 cents on every dollar. Or, like you mentioned, they
15 pick up the first 10 cents of the limit. Or, like we do
16 now, is we ask for a reinsurer to pick up, you know, 40
17 percent of the last \$10. So there are ways the insurance
18 company can mitigate losses. And that can work with
19 guaranteed investment contracts, it can work with pure
20 insurance.

21 PANEL MEMBER ANDERSON: And they all have the
22 effect of bringing the premium down?

23 PANEL MEMBER LUTZ: The premium down. And also
24 probably give us some sort of assurance that we can go out
25 on a longer term without, you know, destroying the

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 company. Because people right now in corporate AIG are
2 saying, "Well, you know, 30 years is a long time to go out
3 with a very minimal amount of actuarial data." And when
4 we look at these long-term projects, we don't have the
5 actuarial data.

6 So what we rely on is we have 150 engineers that
7 work for AIG that basically look at these costs under a
8 fine microscope and they make sure that our loss estimates
9 are correct. And that we, you know, kind of try to
10 itemize what our excess losses or worse-case scenarios
11 would be. So that if we're insuring a \$10 million
12 project, we want to say, "Well, what is the possible
13 worst-case scenario? Is it a hundred million dollars?
14 What is the percentage of that?" Make sure that we
15 collect enough premium to cover us for that one percent
16 chance that it's a hundred million dollar loss, not a \$10
17 million loss.

18 So we're basically looking at each one of these
19 individually.

20 If you could pool a hundred thousand sites in,
21 you wouldn't have to look at them so closely. You'd be
22 doing more long-term care the way you do life insurance.
23 You'd say, "A 50-year-old male that doesn't smoke, isn't
24 underweight, he should be charged this premium." You
25 could get some actuarial data that would allow you to, you

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 know, base your pricing and your loss picks on that.

2 PANEL MEMBER ANDERSON: Thanks, Gary.

3 DEPUTY DIRECTOR LEVENSON: Okay. Thank you very
4 much, Gary.

5 I think -- you know, we've gotten a lot of ideas
6 out on the table today. Let me just open it up to any
7 comments, questions, questions of the panelists for
8 clarification or comments from the audience. If anybody
9 wants to make a statement or ask a question.

10 Evan.

11 If you can just identify yourself for the record.

12 MR. EDGAR: I'm Evan Edgar with the California
13 Refuse Removal Council. Basically small, independent,
14 private landfills. We're the blue lines on the chart, not
15 the red states. We're the blue ones.

16 Basically on today's agenda we had two typical
17 landfills from CRRC: Cold Canyon, which has a compost
18 facility on top of that landfill; and West County. So our
19 landfills are typically integrated, we've been here for a
20 long time, we're not going anywhere. So we understand
21 perpetual care because we're perpetually integrated in
22 order to have integrated services for landfill and
23 composting.

24 Therefore, we understand the need for some type
25 of access to money, because we are mostly private

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 independent landfills and we have cash value -- we don't
2 have insurance -- and we want access to cash when we
3 close.

4 I have issue with issue number 5. And it's kind
5 of telling the industry that once you put away all this
6 money -- it says, "Is it appropriate to release money from
7 the current post-closure maintenance account to have cash
8 value without knowledge that the post-closure maintenance
9 period will end at the 30-year mark?"

10 So what I have to say is that, yes, we need to
11 release the money when we close because we have it in our
12 trust fund at cash value and we'd be there for a long time
13 with perpetual care.

14 What I do support is -- last year at the workshop
15 we had an EREF model up. And the EREF is a -- they call
16 it Phase 3 of what the Waste Board's been doing with
17 Geosyntec as part of the Phase 1 and Phase 2 on the
18 600,000 landfill study that has been going on. And Phase
19 3 would kind of incorporate the EREF model on post-closure
20 care, what to do with it. There's studies coming out.
21 And have some type of post-closure maintenance plan that
22 gets revised every five years per se to plan, do
23 check-adjust, to kind of go back into the post-closure
24 care every five years to look at your trust fund, look at
25 the risks to the environment, reassess your fund balance,

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 and regauge your contribution.

2 So I think there's a way to do it. The private
3 independent landfills, we need our cash to get it back
4 into the landfills in order to maintain it. So no reason
5 withholding that money. And to use an EREF model in the
6 future to plan, do check-adjust with some type of
7 post-closure care five-year plan.

8 Thank you.

9 PANEL MEMBER ANDERSON: The problem I have with
10 that is it's like if you were a member of a CSI unit. You
11 arrive on the crime scene. And as you walk in the door
12 the detective says, "The murder weapon's in the kitchen."
13 And the CSI unit marches into the living room and scours
14 the living room backwards and forwards and can't find the
15 murder weapon. And that's essentially the difference
16 between those two graphs up there.

17 The problem we have is that the murder weapon's
18 going to be found after the second wave arises, which is
19 after all the leachate numbers attenuate. And I think the
20 entire fabric of the EREF method is no value. I think you
21 have to remember that you may have -- I don't know what
22 your sites -- say a big site -- \$5 million there. But
23 just to make a perpetual care fund just for replacing the
24 cap would be \$40 million. So it may well be true that if
25 you say that the problem is just \$5 million of lawn mowing

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 and leachate care, that why couldn't you take the money
2 down after you paid for half of it after 15 years? That
3 doesn't begin to address all the other costs out there
4 that are routine, nonetheless the corrective actions.

5 MR. EDGAR: This is not a "Who-dun-it?" We're
6 there, be there -- we've been there for 30 years, be there
7 for another 30 years. So whether it be the kitchen or the
8 bathroom or wherever, we're there with perpetual care,
9 with maintaining the cap, for our compost facilities, our
10 C&D facilities on top of landfills.

11 So what I'm saying is that every -- the 30-year
12 care, check in every five years with a five-year
13 post-closure maintenance plan so that you spend the money
14 as you go. And every five years you assess the landfill's
15 risk to the environment and your fund balance by using the
16 EREF process that's going to be in place hopefully.

17 PANEL MEMBER ANDERSON: Well, I don't think we
18 do. We have very few Subtitle D landfills that have been
19 closed, and certainly none for 30 years after care has
20 ended. So we don't have that model to look at. We have
21 no data except the fact that every single expert that
22 looked at it says those caps are eventually going to go.
23 I think the only way to make that statement would be is if
24 you could provide some kind of way of assuring the cap
25 would survive forever without care. I don't think

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 anyone's going to make that statement.

2 MR. EDGAR: That's why you check in every five
3 years with the EREF model in order to check your model and
4 check your fund balance and to maintain it.

5 PANEL MEMBER ANDERSON: But there's no one there.
6 I think the bottom line is after 30 years there's no one
7 there.

8 MR. EDGAR: Well, in our case we've got resource
9 recovery parks. We are there with compost pad. It is our
10 C&D facilities. So we will be there.

11 PANEL MEMBER ANDERSON: Well, I think Howard's
12 going to kill me if I go back and forth one more time.

13 DEPUTY DIRECTOR LEVENSON: This is our
14 open-discussion period. So whatever anyone wants to say
15 is fair game.

16 But if you don't mind coming up here, Gary.

17 MR. LISS: Gary Liss. I just want to clarify
18 between the two of you. I wasn't sure if I was hearing
19 disagreement.

20 What I heard you saying, Evan, is that you're
21 talking about five years during current operations --

22 MR. EDGAR: -- post-closure.

23 MR. LISS: -- during post-closure -- during the
24 30-year term of post-closure. And beyond post-closure?

25 MR. EDGAR: Every -- during the post-closure --

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 check every five years do the post-closure maintenance
2 plan.

3 MR. EDGAR: Okay. And we have the engineering
4 design review every five years as a precedent for that
5 type of system.

6 And all I was hearing Peter highlighting, that I
7 wasn't hearing you pick up on and respond to, was: Would
8 that every five-year process continue after 30 years or
9 after there's a determination of no threat to the
10 environment? Your response I heard was, "We will still be
11 there 1) because a lot of the independents also are
12 vertically integrated for collection and landfill and
13 therefore will continue to want to provide services in
14 those areas; 2) they will be developing into resource
15 recovery parks like Cold Canyon Landfill has been morphing
16 into and many others around the state." So you will be
17 there using the landfill as a base for other operations.

18 So what Peter was trying to get at, which I
19 didn't hear you respond to, is in the beyond post-closure
20 period and beyond no threat to the environment, if you're
21 still there, would your proposal address every five years
22 ad infinitum, that as long as you're there, you're there,
23 and you will every five years continue to do that type of
24 proposal that you're suggesting beyond the 30 years or
25 no-threat-to-the-environment determination?

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 MR. EDGAR: Should I grab a mike?

2 Evan Edgar.

3 First of all, for year 1 we want access to funds.

4 That's what I said. So the issue number 5, today we have
5 access to fund and when we close we should continue to
6 have access to funds because of the fact that we need that
7 money to start the closure process. That's number 1 issue
8 I have.

9 Number 2, I said we will be there for -- on top
10 of maintaining it for many years to come. But for every
11 five years after post-closure we check in with regards to
12 using the EREF model. There are three aspects the EREF
13 model has pointed out, if you can repeat the three, was
14 you can keep on perpetual care. But it comes to the point
15 where you get custodial care as well.

16 PANEL MEMBER CALDWELL: Correct. It's continued
17 care, optimized care, and end care essentially is the
18 three layers.

19 MR. EDGAR: Yeah. So those are the three
20 options. So as you go through your post-closure care,
21 it's a 30-year period. From year 0, 5, 10, 15, 20 using
22 the EREF model, eventually you get to one of the three
23 choices. And one of the three choices, that you get
24 custodial care when there is no threat to the environment.
25 So the model itself is a process or a tool that we'd use

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 in order to determine when the post-closure period would
2 end. And one of them could be custodial care with no
3 further maintenance.

4 MR. LISS: But Peter -- Gary Liss.

5 But Peter's point is that there is no end. It
6 needs to be a perpetual system. Whereas the EREF model is
7 assuming that there's an end. And that's where Peter is
8 trying to clarify, and I'm trying to clarify with you --

9 MR. EDGAR: There is an end.

10 MR. LISS: There is an end.

11 MR. EDGAR: The end is near.

12 MR. LISS: Okay. So then we disagree.

13 DEPUTY DIRECTOR LEVENSON: George, did you want
14 to say something?

15 Okay. Curt.

16 MR. FUJII: Curt Fujii with Allied Waste.

17 I guess I have a request. I don't want to get
18 into the details of a lot of what's been discussed. I
19 understand -- I take the Waste Board at their word that
20 there will be subsequent workshops when we can do that.

21 I do have one request. I've heard a lot of
22 discussion today of: How big is the risk, how do you
23 quantify the risk, how do you provide financial assurances
24 for the risk? I would ask that in further discussions
25 that the Waste Board add another issue. I don't know if

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 it would be six or seven or whatever, which is: What can
2 the state do to mitigate or reduce these risks?

3 There are a couple of things that come to my
4 mind. And these are just off the top of my head. Maybe
5 they will or maybe they won't pan out.

6 One would be design and operational changes. An
7 example of that that I've seen in the regulatory community
8 in California that encourages me a great deal is the
9 acceptance of evapotranspiration or monolithic final
10 covers. These are not the elaborate barrier systems that
11 everybody is predicting will fail. And I think that
12 acceptance of those is a way to mitigate or reduce these
13 long-term risk.

14 Another one -- and this might be reaching
15 there -- is what can the state do to encourage clean
16 closure of small remote landfills, particularly the older
17 pre-Subtitle D landfills? As a landfill owner/operator,
18 you know, we discuss clean closure of either discrete
19 units of some of our facilities or some of our smaller
20 closed landfills. And the usual reaction's, "Oh, no.
21 It's closed. We've got closure certified. We're in
22 post-closure. We know what that ball game is. Let's not
23 try to open a Pandora's Box." If the state can do
24 something to reduce that "oh, no" factor, perhaps we can
25 reduce these risks.

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 A third one would be, can the state do something
2 to address -- I guess to promote, facilitate, or create
3 uses for medium to low BTU landfill gas? I think that in
4 California most of us are beginning to recognize that gas
5 is the transport mechanism of concern more than leachate.
6 A lot of our gas-to-energy projects are oriented toward
7 electricity generation, which wants the peak of your
8 gas-production curve. It wants the sweet part of that
9 curve. And that kind of doesn't address the beginning or,
10 as we're talking about here, the tail-end of that curve
11 when that drops down.

12 If the state can do something to facilitate or
13 encourage uses for the tail-end of that curve, then we're
14 less dependent on the entity that may or may not be there
15 as you get to the 30th year or the 35th year if there is
16 an economic use for that. You've sort of got an automatic
17 mechanism there to mitigate landfill -- or control
18 landfill gas, which again I think most of us in most of
19 the climates in California agree is your major transport
20 mechanism of concern.

21 And that's it. I'll end it with that. But if
22 you could add that issue of, what can the state do to
23 reduce or mitigate the risks?

24 PANEL MEMBER ANDERSON: I would like to say I
25 think I would like to engage in a dialogue with you,

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 because I think it's exactly right. Too much has been
2 based upon creating a box that works without intervention.
3 It doesn't. I think we have to look at the kind of
4 operational issues. I may come out at a different place
5 than you, but I think you've identified a major way of
6 relooking at these issues. Because if we do bring, with
7 the current designs and the current operational
8 techniques, those long-term liabilities into the current
9 tip fees, you will see lots of other alternatives become a
10 lot more economically viable to consider that might not be
11 economically viable today.

12 So, in Europe, for example, they have said the
13 fact that we have all that organic material is what keeps
14 it biologically active, which is a source, as you said, at
15 a gas vector and a leachate vector. And they are
16 basically saying, "Let's phase out as a permissible item
17 to discard in a landfill organic matter by the year 2012,"
18 I think, if I remember correctly. But basically we have
19 to start looking at this in a far bigger way -- picture it
20 in a far wider way than we have in the past. I think you
21 have identified a very important element in this.

22 DEPUTY DIRECTOR LEVENSON: Any other comments?

23 Mike, Gary, Peter, anything you want to say?

24 Okay. Come to the end of a long day.

25 I want to thank you all for -- the panelists for

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 coming today and presenting this information. I think
2 it's very instructive.

3 We've got a lot of work ahead of us. No
4 timeframe promises at this point other than that we will
5 at some point in the early spring or summer -- early
6 summer have a workshop on some of these more focused
7 issues where we go into more depth, try and get pros and
8 cons out so that we can report back to the Committee with
9 some real specific ideas.

10 So it's a long-term project here, long-term
11 issue, and I appreciate all your work on this.

12 Thanks for coming.

13 (Thereupon the California Integrated Waste
14 Management Board, Permitting and Enforcement
15 Committee workshop adjourned at 5:00 p.m.)

16

17

18

19

20

21

22

23

24

25

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929

1 CERTIFICATE OF REPORTER

2 I, JAMES F. PETERS, a Certified Shorthand
3 Reporter of the State of California, and Registered
4 Professional Reporter, do hereby certify:

5 That I am a disinterested person herein; that the
6 foregoing California Integrated Waste Management Board,
7 Permitting and Enforcement Committee workshop was reported
8 in shorthand by me, James F. Peters, a Certified Shorthand
9 Reporter of the State of California, and thereafter
10 transcribed into typewriting.

11 I further certify that I am not of counsel or
12 attorney for any of the parties to said workshop nor in
13 any way interested in the outcome of said workshop.

14 IN WITNESS WHEREOF, I have hereunto set my hand
15 this 16th day of December, 2004.

16

17

18

19

20

21

22

23 JAMES F. PETERS, CSR, RPR

24 Certified Shorthand Reporter

25 License No. 10063

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

DIVERSIFIED REPORTING SERVICES, INC. (202) 296-2929